

REMARKS

Claims 1-48 are pending in this application. Of these pending claims, Claims 1-15 and 26-46 stand rejected with Claims 16-25, 47, and 48 being withdrawn from consideration. By way of this paper, Claims 4, 31, and 43 have been amended; and new Claims 49 and 50 have been added herein.

The foregoing amendments and following remarks are believed to be fully responsive to the outstanding office action, and are believed to place the application in condition for allowance.

Information Disclosure Statement

Applicants are enclosing an Information Disclosure Statement form PTO 1449 corresponding to the supplemental Information Disclosure Statement filed May 1, 2003. The Examiner is requested to forward a signed and dated copy of the form back to Applicants. Applicants also apologize for any inconvenience caused by the form not being included with the supplemental Information Disclosure Statement.

Objections to the Drawings

Figures 4 and 5 stand objected to because reference numbers are missing from the figures. Applicants respectfully direct the Examiner's attention to the formal drawings filed April 26, 2002, in response to the Notice to File Corrected Application Papers – Filing Date Granted mailed by the PTO on March 14, 2002. In the formal drawings filed April 26, 2002, Figures 4 and 5 include all reference numbers. A courtesy copy of the formal drawings is being included along with this response for the Examiner's easy reference.

Objections to the Claims

Claims 4, 31, and 43 stand objected to for containing informalities as noted by the Examiner. By way of this paper, Claims 4, 31, and 43 have been amended to correct these informalities. Specifically, "an other" has been changed to "another" in Claims 4 and 31; and "the" has been changed to "a" in Claim 43.

Claim Rejections – 35 U.S.C. § 103

Claims 1-4, 6, 10-12, 26-36, 39-40 and 44-46 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the Sievers et al. ('441) reference in view of the Coulter ('949) reference. Claims 5, 37, and 38 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the Sievers et al. ('441) reference in view of the Coulter ('949) reference as applied to claims 1-4, 6, 10-12, 26-36, 39-

40 and 44-46 and further in view of the Matsumoto et al. ('456) reference. Claims 7, 8, 41, and 42 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the Sievers et al. ('441) reference in view of the Coulter ('949) reference as applied to claims 1-46, 6, 10-12, 26-36, 39-4 and 44-46 and further in view of the Shrivastava et al. ('401) reference. Claims 9 and 43 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the Sievers et al. ('441) reference in view of the Coulter ('949) as applied to claims 1-4, 6, 10-12, 26-36, 39-40 and 44-46 and further in view of the Isikawa et al. ('347) reference. Claims 13-15 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the above cited references, as applied to claims 1-4, 6, 10-12, 26-36 39-40, and 44-46 further in view of the Wang ('980) reference.

Independent Claims 1 and 11 include the feature of a thermodynamically stable mixture of a fluid and a marking material, as described in Applicants' specification as originally filed, specifically, on at least page 12, lines 8-19. Applicants respectfully submit that the prior art cited above does not disclose this feature.

In this regard, Applicants submit that the Sievers et al. ('441) reference discloses an apparatus and method of particle formation in which an immiscible mixture of a supercritical fluid (created by reservoir 10 and pump 12) and an aqueous solution (14) containing a dissolved or suspended substance(col. 11, lines 44-64) forms an aerosol (34) comprising fine particles of a substance dissolved or suspended in an aqueous solution (Figure 1, col. 12, lines 5, 6, and 30-33). The immiscible mixture of the supercritical fluid and the aqueous solution need not be stable (col. 4, lines 27-29) because the substance is already in an aqueous solution (col. 10, lines 4-7). In contrast, the mixture of the fluid and the marking material of Applicants' invention should be thermodynamically stable in order to prevent the marking material from unintentionally precipitating (page 12, lines 23-25) and/or aggregating (page 13, lines 9-11). Accordingly, reconsideration and withdrawal of the 35 U.S.C. §103 rejection of Claims 1 and 11 is respectfully requested.

The remainder of the claims being dependent from either Claim 1 or 11 are considered patentable for at least the same reasons.

New Claims

New Claims 49 and 50, depending from independent Claims 11 and 1, respectively, are presented herein. Claims 49 and 50 include the feature of the marking material being solvent free when the fluid is in the gaseous state at the location beyond the outlet of the discharge device. Support for this feature can be found in the specification and drawings as originally filed, and specifically on at

least page 13, line 32, through page 14, line 3. Applicants submit that this feature is not disclosed by the Sievers et al. ('441) reference.

In this respect, Applicants submit that the Sievers et al. ('441) reference discloses an apparatus and method of particle formation in which an immiscible mixture of a supercritical fluid (created by reservoir 10 and pump 12) and an aqueous solution (14) containing a dissolved or suspended substance(col. 11, lines 44-64) forms an aerosol (34) comprising fine particles of a substance dissolved or suspended in an aqueous solution (Figure 1, col. 12, lines 5, 6, and 30-33). As the substance is still dissolved or suspended in the aqueous solution after the aerosol is formed, the substance can not be said to be solvent free.

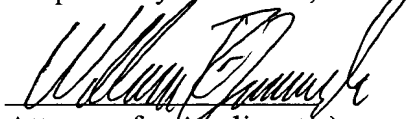
Additionally, the Sievers et al. ('441) reference discloses that the particles of the dissolved substance and the aqueous solution are collected and further treated or diluted with air (col. 12, lines 4-8), nitrogen, or other gases as an aid to drying the aerosol (col. 10, lines 8-10). As the aerosol particles need to be further treated or dried after the aerosol is formed, the substance can not be said to be solvent free. Accordingly, allowance of Claims 49 and 50 is requested.

CONCLUSION

It is respectfully submitted that, in view of the above amendments and remarks, this application, with currently pending Claims 1-50, is now in condition for allowance, prompt notice of which is earnestly solicited.

The Examiner is invited to call the undersigned in the event that a phone interview will expedite prosecution of this application towards allowance.

Respectfully submitted,



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Enc. Courtesy copy of formal drawings (Figures 1-9B) submitted April 26, 2002
Copy of PTO-1449 (submitted with supplemental Information Disclosure
Statement dated May 1, 2003)